

**The author(s) shown below used Federal funds provided by the U.S. Department of Justice and prepared the following final report:**

**Document Title:           Systems Change Analysis of SANE Programs:  
Identifying the Mediating Mechanisms of  
Criminal Justice System Impact: Project  
Summary**

**Author:                     Rebecca Campbell, Ph.D.; Deborah Bybee,  
Ph.D.; J. Kevin Ford, Ph.D.; Debra Patterson,  
Ph.D.**

**Document No.:           226498**

**Date Received:           April 2008**

**Award Number:           2005-WG-BX-0003**

**This report has not been published by the U.S. Department of Justice. To provide better customer service, NCJRS has made this Federally-funded grant final report available electronically in addition to traditional paper copies.**

<p><b>Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.</b></p>
---

**A Systems Change Analysis of SANE Programs:  
Identifying the Mediating Mechanisms of Criminal Justice System Impact**

**2005-WG-BX-0003**

**PROJECT SUMMARY**

**January 23, 2009**

**Principal Investigator:** Rebecca Campbell, Ph.D., Professor  
Department of Psychology, Michigan State University  
East Lansing, MI 48824-1116  
Phone: (517) 432-8390, Fax: (517) 432-2945  
Email: rmc@msu.edu

**Co-Investigators:** Deborah Bybee, Ph.D., Professor  
Department of Psychology, Michigan State University  
East Lansing, MI 48824-1116  
Phone: (517) 353-5015, Fax: (517) 432-2945  
Email: bybee@msu.edu

J. Kevin Ford, Ph.D., Professor  
Department of Psychology, Michigan State University  
East Lansing, MI 48824-1116  
Phone: (517) 353-5006, Fax: (517) 353-4873  
Email: fordjk@msu.edu

Debra Patterson, Ph.D., Assistant Professor  
School of Social Work, Wayne State University  
Detroit, MI 48202  
Phone: (313) 577-5942  
Email: patte251@gmail.com

**Consultant:** Jamie Ferrell, BSN, RN, DABFN, CA/CP SANE, SANE-A, CMI-III, CFN  
National Forensic Nursing Institute  
PO Box 885  
Oklahoma City, OK 73101-0885  
Phone: (800) 490-9811  
Email: jferrell@nfni.org

## Introduction and Project Overview

Epidemiological data suggest that at least 17% of women will be sexually assaulted in their adult lifetimes (Tjaden, & Thoennes, 1998); however, most victims/survivors do not report to law enforcement (Bureau of Justice Statistics [BJS], 2007). Even when victims do contact the police, previous studies indicate that only 18%-44% of all reported incidents are referred to prosecutors; of those referred reports, prosecutors issue warrants in 46%-72% of the cases. Overall, only 14% to 18% of all reported sexual assaults are prosecuted (see Campbell, 2008a and Spohn, 2008 for reviews).

To address these problems, communities throughout the United States have implemented multidisciplinary response interventions to try to improve post-assault care for victims and also increase reporting and prosecution rates (Campbell, 2008b). One such model is Sexual Assault Nurse Examiner (SANE) Programs whereby specially trained nurses (rather than hospital emergency department physicians) provide comprehensive psychological, medical, and forensic services for sexual assault victims (Ledray, 1999). Sexual assault forensic nurses are trained to offer crisis intervention and emotional support, health care (e.g., sexually transmitted infection [STI] screening and prophylaxis, pregnancy testing and emergency contraception), injury detection and treatment, and state-of-the-art forensic medical evidence collection (Department of Justice, 2004). In addition, SANEs work with the police and prosecutors in their communities for on-going case consultation and can testify as expert witnesses should a case go to trial. SANE programs are a vital resource to both sexual assault survivors and the legal community, which raises the question: Do SANE programs have an impact on prosecution rates in their communities?

Numerous case studies suggest that SANEs are helpful to police and prosecutors (see Campbell, Patterson, & Lichty, 2005 for a review) but only two studies have rigorously tested the hypothesis that SANE programs increase prosecution (Crandall & Helitzer, 2003; Nugent-Borakove et al., 2006). Both projects found that SANE interventions are associated with higher prosecution rates, but the methodology of these studies left some unanswered questions regarding the extent to which the increased rates were

directly attributable to the implementation of the SANE program. In addition, researchers, practitioners, and policy makers need to understand the mediating mechanisms of how and why SANE programs increase prosecution rates. It is possible that communities could implement SANE programs with the hopes of achieving higher prosecution rates, but such effects fail to materialize. Why do rates change and what are the “critical ingredients” necessary for such changes? Such information is crucial because SANE programs are proliferating much faster than researchers are generating evaluation data to guide their implementation. In light of the fact that there are now over 475 SANE programs in the United States and its territories (IAFN, 2008) and they are quickly becoming “the” model of care for sexual assault victims, the importance of research linking elements of practice to case outcomes cannot be overstated.

The purpose of this project was to determine whether adult sexual assault cases in a Midwestern community were more likely to be investigated and prosecuted after the implementation of a Sexual Assault Nurse Examiner (SANE) program, and to identify the “critical ingredients” that contributed to that increase. Informed by a systems change theoretical model, the interrelationships between SANE program personnel, legal professionals, and victims/survivors were examined as it is these linkages that may be instrumental to increased prosecution rates. The design of this project combined quasi-experimental quantitative methods to measure objective indices of change with qualitative methods to capture the processes that produce those changes (Creswell et al., 2003). Police and court records, as well as in-depth interviews with police, prosecutors, survivors, and forensic nurses, were the primary data sources for this project.

Starting with quantitative methods, Study 1 used police and court records to ascertain whether there was a significant increase in criminal investigation and prosecution rates of adult sexual assault cases before to after the implementation of the SANE program. It is hypothesized that there would be a significant increase in investigations and prosecutions post-SANE. Study 2 also used quantitative methods to examine what factors predict how far cases will progress through the criminal justice system. What makes some cases more or less likely to move further through the system? In Study 2, we tested a model

that compared the degree to which victim characteristics (e.g., race, age), assault characteristics (e.g., victim-offender relationship), and medical forensic evidence (e.g., injury, DNA) predict investigation and prosecution rates in the post-SANE era. It was hypothesized that after victim and assault characteristics have been accounted, forensic medical evidence provided by the SANEs will explain a significant portion of unique variance in case outcomes.

In the next series of studies, our goal was to understand why there was (or was not) a positive effect of the SANE program implementation on criminal justice system investigation and prosecution rates. To understand how and why SANE programs may influence case outcomes, the perspectives of key stakeholders involved in sexual assault case processing must be examined. Therefore, in Study 3, we conducted in-depth qualitative interviews with police and prosecutors about their experiences working with the SANE program. We asked whether they had perceived a change in investigation and prosecution practices, and how their interactions with the SANE program influence their work. In Study 4 we returned to quantitative methods and conducted a content analysis of actual police reports to determine whether the nature of investigations differed as a function of SANE involvement in a case. This study complements the prior qualitative study (Study 3) by examining whether there were objective, behavioral differences in law enforcement investigation, identifiable in the police reports themselves. It was hypothesized that SANE involvement would be associated with increased police investigation effort and decreased victim withdrawal, which in turn would be associated with increased case referral to the prosecutors.

Studies 1-4 in this project focused on criminal justice case progression and police and prosecutors' experiences working with SANEs. Another essential perspective to understand when evaluating the impact of SANE programs is that of the rape survivors themselves. Consequently, Study 5 used a qualitative framework to understand how victims/survivors' characterized the care they received at the focal SANE program as well as their experiences with the criminal justice system. We also explored whether SANE care had a direct effect on survivors' participation in the legal system as a possible mechanism by which

SANE contributes to increased prosecution. Finally, in Study 6, we conducted qualitative interviews with the forensic nurses to understand how they approach their work with their patients and with members of the legal community. As a set, these six studies examined, from multiple points of view, how and why SANE programs may influence sexual assault case investigations and prosecutions.

### **Study 1 Methods and Results**

This study used a quasi-experimental, non-equivalent comparison group cohort design (Shadish, Cook, & Campbell, 2002) to compare criminal justice system outcomes for adult sexual assault cases treated in county hospitals five years prior to the implementation of the SANE program (January 1994 to August 1999) to cases treated in the focal SANE program during its first seven years of operation (the intervention group). A quasi-experimental design was necessary because it was not feasible to randomly assign victims to receive exams at either the SANE program or a hospital. A quasi-experimental design was also used due to the ethical concerns about randomly assigning sexual assault victims to a non-SANE condition for medical care. Previous research has found that SANE programs are significantly more consistent than non-SANE hospital emergency departments in providing key services such as STI prophylaxis and emergency contraception (Campbell et al., 2006; Logan, Cole, & Capillo, 2007).

Cases were sampled that fit the following criteria: 1) the victim was age 18 or older at the time of the assault; 2) the victim was assaulted within the focal county so that all cases would be processed by the same prosecutor's office; 3) the case was investigated by one of the five largest police departments in the county; 4) a complete medical forensic exam was conducted by either county hospital personnel (comparison group) or the SANE program (intervention group); and 5) the exam results were analyzed by the state crime lab for DNA evidence. There were N=156 pre-SANE hospital cases and N=141 post-SANE cases that met these criteria.

For all sampled cases, complaint numbers and date of assault were recorded to search police records and prosecutors' databases for case outcome data. Case outcome was coded as an ordinal

variable to capture case progression through the criminal justice system: 1=not referred by the police for prosecution; 2=referred to the prosecutor but not warranted for prosecution; 3=warranted by the prosecutor but later dropped or acquitted; and 4=guilty plea or conviction. Table 1 presents a summary of case progression outcomes pre-SANE to post-SANE. There was a decrease in the number of cases police did not refer for prosecution post-SANE (i.e., more cases were referred for prosecution post-SANE). Similarly, after the implementation of the SANE program, there was a slight decrease in the number of cases that were referred to the prosecutors, but were not warranted for prosecution. There was also a slight increase post-SANE in the number of cases that were warranted by the prosecutors, but were later dropped or acquitted. Although these case outcomes may be undesirable, this does reflect investment and effort on the part of prosecutors. Finally, there was an increase in the number of cases that ended in guilty plea or conviction after the implementation of the SANE program. This pattern of decreases and increases is consistent with the hypothesis that the SANE program positively affected case progression outcomes.

**TABLE 1: CASE PROGRESSION OUTCOMES BEFORE AND AFTER SANE IMPLEMENTATION**

Outcome	Pre-SANE	Post-SANE
Not referred by police for prosecution	49%	43%
Referred to prosecutor, but not warranted for prosecution	17%	15%
Warranted by prosecutor, but dropped or trial acquit	10%	13%
Guilty plea or trial conviction	24%	29%

Multi-level ordinal modeling was used to determine whether these changes were statistically significant. Multiple county-level and case-level characteristics were included in this model to account for other contextual factors that could account for increased case progression. Five variables were examined: 1) the law enforcement agency that handled the case; 2) whether the medical forensic exam DNA findings

were positive; 3) time/month in which case was processed over the twelve focal years; 4) whether the case was handled during the prosecutor re-election year; and 5) whether the case was pre-SANE or post-SANE.

The law enforcement agency handling the case was a significant predictor of case progression such that one department in the focal county had significantly lower case progression rates (both before and after SANE implementation). Cases that had positive DNA evidence were 1.86 times more likely to reach a higher level outcome ( $p < .05$ ). A seasonality effect emerged such that cases processed in December were about one third (OR = 0.34) as likely to reach a higher outcome, compared with cases processed in other months ( $p = .05$ ). Similarly, cases processed during a prosecutor election year were about one third (OR = 0.32) as likely to reach a higher outcome, in comparison with cases processed in non-election years ( $p < .05$ ). Finally, after adjusting for all other effects, cases processed post-SANE were approximately 70% more likely (OR = 1.71) to attain a higher level of outcome, compared with cases processed pre-SANE ( $p < .05$ ). These results indicate that there was a statistically significant increase in criminal justice system case progression pre-SANE to post-SANE. More sexual assault cases were moving further through the system, reaching higher levels of case disposition (i.e., plea bargains and trials) after the implementation of the SANE program as compared to before SANE. Case progression was higher for the SANE cases, and this effect was significant after accounting for department-level and county-level effects in this community over time.

### **Study 2 Methods and Results**

In Study 2, we examined what factors predict case progression through the criminal justice system—what makes some cases more or less likely to move further through the system? Prior research has found that victim and assault characteristics are often highly influential in determining whether a case is prosecuted. We had planned to examine this issue in both the pre- and post-SANE cases, but unfortunately, there was so much missing data among the pre-SANE cases that we were unable to do so. Therefore, we tested a model that compared the predictive utility of victim characteristics (e.g., race, age),

assault characteristics (e.g., victim-offender relationship), and medical forensic evidence (e.g., injury, DNA) in explaining case progression in the post-SANE era (N=141) (see Table 2 next page for a summary).

In the hierarchical ordinal regression models, two victim characteristics were significant predictors of case progression: survivors between the ages of 18 and 21 (i.e., younger women in the sample) were significantly more likely to have their cases move to higher case disposition outcomes (OR = 2.35,  $p < .05$ ); and alcohol use by the victim prior to assault significantly decreased the likelihood that the case would be prosecuted (OR = 0.58,  $p < .05$ ). Two assault characteristics were significant: penetration crimes (vs. fondling crimes) (OR = 6.13,  $p < .01$ ) and assaults in which the offender was an intimate partner/husband, ex-intimate partner/husband, dating partner, or family member (i.e., stronger relationship bonds between the victim and offender) (OR = 2.73,  $p < .05$ ) were more likely to advance to higher disposition levels. After accounting for these victim and assault characteristics, medical forensic evidence could still predict significant variance in case outcomes. The more delay there was between the assault and when the survivor had the medical forensic exam, the less likely the case would progress through the system (OR = .39,  $p < .05$ ). Positive DNA evidence significantly increased the likelihood of case progression (OR = 2.68,  $p < .05$ ). With respect to specific findings in the medical forensic evidence exam, physical or anogenital redness was associated with increase likelihood of case progression (OR = 2.35,  $p < .05$ ). These results indicate that after accounting for victim and assault characteristics, medical forensic evidence could still predict significant variance in case outcomes. In other words, what determined whether post-SANE cases would proceed through the criminal justice system was not solely based on features of the survivor and/or the assault. The evidence supplied by the SANEs was uniquely influential in predicting case outcomes.

TABLE 2: POST-SANE SAMPLE CHARACTERISTICS

	Not Referred (N=59)	Cases Referred, but Not Warranted (N=21)	Cases Warranted, but Dropped/Acquitted (N=18)	Cases Conviction/Guilty (N=39)	All Cases (N=137)
Victim Characteristics					
Age in Years	30.80 (13.30)	27.33 (15.20)	26.72 (9.86)	27.51 (11.41)	28.80 (12.70)
Consumed Drugs and/or Alcohol	58%	65%	44%	33%	48%
Assault Characteristics					
Victim/Offender Relationship					
Stranger	30%	19%	6%	21%	22%
Intimate/Familial	14%	10%	39%	34%	22%
Acquaintance	55%	71%	56%	45%	53%
Forensic Medical Evidence Findings					
Delay in Exam (in hours)	20.55 (20.66)	18.76 (19.10)	19.58 (23.66)	12.09 (12.83)	17.89 (19.77)
Positive DNA Results	40%	37%	59%	66%	49%
Redness—Physical	10%	24%	6%	18%	14%

Note: Standard deviation in parentheses.

### Study 3 Methods and Results

The results of Studies 1 and 2 indicated that there was an increase in criminal justice system case progression after the implementation of the SANE program, so the remaining studies in this project examined how and why these positive changes occurred. In Study 3, we conducted in-depth interviews with law enforcement personnel and prosecutors regarding their perceptions of how the emergence of the SANE program affected their work investigating and prosecuting adult sexual assault cases. The target sample for this study was law enforcement personnel (from the same five departments from which the Study 1 and 2 cases were drawn) who were: 1) direct supervisors of detectives who investigate adult rape cases OR the detective with the most experience investigating adult rape cases within their department; and 2) knowledgeable about and responsible for implementation of any policy or procedural changes relevant for rape cases. Two representatives from each department were asked to participate in the study, and N=9 interviews were conducted: seven of the law enforcement participants were male, two were female. Their average age was 41 years old, with a range of 34 to 49 years old. All law enforcement participants were white. In this study, we also interviewed the prosecutors in the sex crimes unit of the focal county's prosecutor's office (N=6) (all agreed to participate). The average age of the prosecutors was 36 years old, with a range of 28 to 41 years old. All prosecutors were female and five were white.

In these interviews, both police and prosecutors independently affirmed that there have been significant positive changes in the investigation and prosecution of adult sexual assault cases since the implementation of the SANE program. The prosecutors directly stated that they believe prosecution rates have increased post-SANE, and that this effect is attributable to the SANE program; for example:

*I think it has everything to do with the SANE program, I really do.... because, personally, when I get a case on my desk, I'm like, oh look, they reported right away, a SANE report, look there is injury . . . I'm sitting here thinking to myself, I've got a good case. I've got corroboration, I've got medical, I've got a good case and I'll use that with talking to the defense attorney.... Again, I think it is the corroboration and the proof. The proof that the jury needs to say that it happened.*

Similarly, the law enforcement interviews highlighted how the SANE program is an effective “tool” for building strong legal cases. Since the implementation of the SANE program, law enforcement can count on more thorough evidence documentation, which is instrumental to creating a solid case:

*We [law enforcement] use the [SANE] examiners like I said, to collect, process evidence and things like that . . . [it's] another link in the chain of probable cause. I think that the prosecutor's office uses them to put together a much stronger case. The stronger your case, the better your chance of conviction and better conviction rate since implementation of the program in my opinion.*

We then examined the interview data in more detail to identify the specific mechanisms by which the SANE program contributes to the development of more complete, fully corroborated investigations. Three distinct pathways were identified. First, the medical forensic evidence (and accompanying documentation) collected by the SANEs is of better quality and quantity than that obtained by traditional emergency department personnel, which contributes to more complete, fully corroborated cases in the post-SANE era (i.e., a *direct effect*). For example, as one detective supervisor noted:

*Instead of doing a full kit, an ER. doctor or nurse may have done, well you know the victim said that only these things happened so we didn't collect from these areas of the body because they didn't complain or say there was anal penetration, they didn't say anything about anal penetration, it was strictly penile vaginal, so we didn't do any swab, not thinking there could be some transfer of fluid from one orifice to another. Whereas, the forensic nurses will do the full kit knowing that there could be that transfer and we may not find it here but we may find it here. So, those things save time in the end because we don't have to go back and in many cases if a certain amount of time has gone by, you can't go back.*

Second, the SANE program's evidence collection procedures save law enforcement time on administrative tasks, which allows the detectives to focus on other aspects of investigating the case, thus producing a more thorough investigation (i.e., an *indirect effect*), as this detective explained:

*Oh, the SANE is much more organized than the hospital was. And SANE information is received rather quickly, if not the same day the following day you have the information. With the hospital it took time to go through their records to obtain any additional reports which made it difficult for us to proceed with our investigation. . . . [the SANE program] certainly saves us time . . . time [would otherwise be] burned up when it could be used for things that are more beneficial to the investigation.*

Finally, this SANE program provides ongoing case consultation and specialized training to law enforcement, and this information also contributes to increased investigational effort, which this detective noted was particularly helpful in building stronger cases:

*The more training you go to, the better you are going to get at investigating them. Again, just knowing how to relate to the victim, knowing what they are looking for, knowing what the SANE person is looking for, more familiarity with anything makes you speak more confidently in anything so the more training you have, the more confident they can speak and the more confident they can testify. The more aptly they can do their investigation and they can know what they are looking for. So I guess all those combined makes them a better investigator in a particular case.*

The findings of study indicated that the SANE program has been instrumental in the creation of more complete, fully corroborated cases. With the medical forensic evidence safely in the hand of the SANEs, law enforcement put more investigational effort into other aspects of the case. The training and on-going consultation provided by SANEs often suggested investigational leads that law enforcement could pursue to further develop a case. As a result, the cases that are put forward to prosecutors reflect the collective efforts and expertise of law enforcement and the SANEs, and not surprisingly, the cases *are* stronger. Consequently, prosecutors are more inclined to move forward with charging cases, and over time, the prosecution rates did increase.

#### **Study 4 Methods and Results**

In Study 4 we returned to quantitative methods to look for objective, behavioral indicators of changes in law enforcement investigations in the post-SANE era in order to cross-validate the qualitative findings of Study 3. We examined whether written police reports for sexual assault cases were substantively different after the emergence of the SANE program, and whether SANE involvement in cases affected the quality of law enforcement investigations. It was hypothesized that SANE involvement in a case would be associated with increased police investigation effort and decreased victim withdrawal, which in turn would be associated with increased case referral to the prosecutors. To test this hypothesis, we

conducted a quantitative content analysis of N=352 police reports collected from three of the law enforcement agencies examined in Study 1 and 2 (only three departments were targeted for this study of police reports due to the resource demands of coding and analyzing micro-level data from the reports). This sample of police files included all reported sexual assaults from 1995-2005 (pre-SANE data from 1994 were not available), so some of these cases had SANE involvement and others did not. This variability is appropriate and essential to the design of this study so that we could compare the content and quality of police reports for cases with and without SANE involvement.

The dependent variable in this study was whether the police had referred the case to the prosecutor (i.e., referral) (154 cases, 54%). For the independent variables, our indicators of SANE involvement included: 1) whether the sexual assault occurred after implementation of the SANE program (300 cases, 85%); 2) whether there had been a forensic examination of the victim (168 cases, 49%); 3) whether SANE conducted a suspect exam (29 cases, 8%); 4) whether law enforcement had consulted with SANE about the case (60 cases, 14%); and 5) whether any member of the police team investigating the case had received SANE training (78 cases, 22%).

For the mediating variables, the indicators of law enforcement effort included: 1) whether police collected other evidence in addition to the medical forensic exam (e.g., evidence found at crime scene) (186 cases, 53%); 2) whether one or more suspects had been interviewed (187 cases, 53%); 3) whether witnesses had been interviewed (157 cases, 45%); 4) whether inconsistencies in the victim or witness statements had been resolved (94 cases, 27%); 5) whether the suspect had been offered a polygraph (63 cases, 18%); 6) whether other professionals had been consulted in the course of the investigation (191 cases, 54%); and 7) the number of pages comprising the police report ( $M = 5.32$ ,  $SD = 1.66$ , range = 1 to 8). In addition to these indicators of law enforcement effort, whether the victim had withdrawn from the law enforcement process (126 cases, 36%) was also examined as a mediator. All analyses controlled for the impact of rape kit results that supported the victim's account (present in 26 cases, 7%).

Results from the multilevel logistic regression models revealed multiple significant mediated effects indicating that SANE involvement in a case was associated with increased law enforcement investigational effort, which in turn predicted case referral to prosecutors. Specifically, in cases in which the victim had a medical forensic exam, police collected more kinds of *other* evidence to support the case, which was associated with increased likelihood of case referral (indirect effect = 1.360, Sobel = 2.099,  $p < .05$ ). In addition, in cases where SANE conducted a suspect exam, police were also more likely to collect other evidence to support the case, and more likely to interview the suspect, both of which were associated with increased likelihood of case referral (indirect effect = 1.508, Sobel = 1.957,  $p < .05$ ; indirect effect = 2.888, Sobel = 2.229,  $p < .05$ , respectively). In other words, evidence begets more evidence: the medical forensic evidence collected by SANEs may suggest specific leads that law enforcement can follow-up on to obtain more evidence, and/or the efficiency of the SANE program frees up law enforcement time to obtain other evidence. The additive effect of evidence from the SANEs plus the evidence collected by law enforcement created more complete documentation of the crime and increased case referrals to the prosecutors.

### **Study 5 Methods and Results**

Studies 1-4 in this project focused on criminal justice case progression and police and prosecutors' experiences working with SANEs. Another essential perspective to understand when evaluating the impact of SANE programs is that of the rape survivors themselves. In Study 5, we used a qualitative framework to understand how victims/survivors' characterized the care they received at the focal SANE program as well as their experiences with the criminal justice system. Two strategies were used to recruit victims for the study: prospective purposive sampling and community-based retrospective purposive sampling. For prospective sampling of victims/survivors, the focal SANE program agreed to modify their existing patient paperwork to include a form requesting participation in this research project. Victims who consented to be contacted completed a contact information form regarding how and when they can be safely contacted by the research team. Victims were contacted ten weeks after completing the form, which is typically enough

time for them to have had some contact with the legal system. Half (n=10) of the participants in this study were recruited through prospective purposive sampling methods. We also used community-based retrospective methods to recruit “older” cases that have gone through the focal SANE program. For this recruitment strategy, the goal was wide-spread dissemination of information about the study throughout the community including posting advertisements at local businesses (e.g., grocery stores, hair salons), public transportation, community-wide mailings, and posting in human and health service agencies including the rape crisis center. Half (n=10) of the participants in this study were recruited through community-based retrospective sampling methods.

All victims were female with an average age of 28 years old, with a range of 18 to 53 years old. Eighty-five percent of the victim participants were white (n=17), 10% were African American (n=2), and one participant was Albanian, which is similar to the demographic make-up of the focal county. Twenty percent attended high school but did not graduate, 30% have a high school diploma, 40% attended some college and 10% have a bachelor's or master's degree. The majority of victims were raped by someone they knew, with 40% being raped by their partners (e.g., dating partner, life partner, spouse), and 40% being raped by acquaintances (e.g., friends, coworkers). The remaining 20% were sexually assaulted by strangers. Forty percent of the victims had consumed drugs or alcohol before the rape. Most victims made a police report the same day as the rape (75%), and 25% of the victims reported within a few days. With respect to legal case outcomes, nine victims had their cases prosecuted for rape charges with five cases resulting in a guilty verdict or plea bargain, three cases pending trial, and one case acquitted by a jury. Eleven victims' cases were not prosecuted for rape charges (7 were not referred; 4 were referred but were not warranted).

The vast majority of survivors characterized their experiences at the SANE program as positive, empowering, and healing. The nurses and advocates worked together as a team to help survivors begin the process of reinstating control over their bodies and their lives, as one survivor described:

*Up until that time, it would have just been formalities, collecting evidence, the police doing that, and it was the first time (at SANE) where I felt like human after going through such a horrendous experience and made to feel I was just a bitch in heat...or a pig being led to the slaughter. It's right away, that it starts the healing. And people like the advocates and the nurse examiner, they . . . make you feel like they're more interested in you, in helping you cope with what happened, and that makes it easier, too, because they're looking at you like a person .... I didn't feel like another body on a slab..*

The program links survivors to advocacy and support services at the rape crisis center (with which this SANE is organizationally linked) so that they have the resources they need to focus on their own well-being and recovery. This attention to helping survivors heal indirectly affected the victims' willingness to participate in legal prosecution. When survivors are not as traumatized, they are more willing and capable of participating in the prosecution process, as this participant explained:

*They [the SANEs and advocates] don't make you feel like a victim. They start people-izing you right away, and it gives you this humanity or the people-izing effect they have on you, is, it doesn't make you feel like a victim, and it's very hard to stand up in court when somebody has treated you like a victim, even though you're not. ... you've just gone through an experience where you have been treated like animal, and it's very dehumanizing, and being treated like a human being again, is, it's one of the most beneficial things, I would say, because you're not feeling human, especially so soon after the situation. You're not feeling like a human being . . . It helps you get through the whole process...because by the time you get to court, then you go through the whole thing again... The respect that they give you, and the humanizing qualities that they try to bring to the situation, it makes it easier to take each small step at a time...so that by the time you get to court, you're ready to testify*

In addition, survivors often had questions about the medical forensic exam and the process of criminal prosecution, and when SANE program nurses and advocates provided patients with this information, it gave survivors more hope and confidence about their legal cases, which also indirectly contributed to increased victim participation, as one survivor noted:

*That's part of the reason [that I continued]. I am because I had evidence towards it...Because that will just show that he did things to me, and I have proof.*

However, positive experiences with the SANE program did not guarantee that survivors would have similarly positive experiences with the legal system. The survivors interviewed in Study 5 had three

distinct patterns of experiences with the criminal justice system. First, there were cases in which the victim wanted the case to be prosecuted, but criminal justice system personnel did *not* prosecute the case, which we termed "*rejected cases*" (n=7). These survivors described their experiences with the legal system as hurtful, disappointing, and disempowering.

*[There was] just no reaction [from the detectives]. No "how are you doing with this? Are you OK?" They were just victim blaming. They were looking at me like, 'You had control of this situation. You should have did this or shouldn't have done that . . .' If they hadn't been cold or unapproachable, it would have been easier for me to tell them [what happened].*

Second, in some cases, the victims wanted the case dropped, but the criminal justice system personnel forwarded the case despite the victims' expressed desire to drop (termed "*dragged cases*") (n=4). These survivors also characterized their contact with the legal system as frustrating, disempowering, and hurtful. It appeared that law enforcement had serious concerns about potential lethality in these cases, and therefore, did not respect victims' wishes not to pursue prosecution; for example:

*I had to go in like tell the police the whole story, and I was so uncomfortable, I didn't want to do it 'cause I didn't want him to be in trouble as much as I was so mad and upset, I just didn't want him to get in trouble, but I had no choice. . . . I didn't want to press charges against him, but the state said they picked that up said I didn't have a choice... They said if I don't press charges the state will press charges, so either way it didn't matter.*

Finally, there were cases in which the criminal justice system's response matched the victims' wishes (termed "*matched cases*") (n=9). These survivors had positive experiences with law enforcement, noting that the care and empathy they received from police helped them participate more fully in the investigation and prosecution process.

*[The police] were consoling, careful, you know. They didn't bombard me, a man had just assaulted me. I felt calmness right away. I felt safe ... They weren't question, question, question. They made sure that I was OK and safe, felt safe there . . . [They] let me sit down and be away from the building and they didn't come at me right away wanting to know this, this and this. They gave me my time and my space . . . You need somebody, you need people to be careful with you and be careful of the way they talk to you and treat you and approach you, because the way I look at it now, I don't know this man. I don't trust anyone.*

## Study 6 Methods and Results

In the last study in this project, *Study 6*, we interviewed forensic nurses in the focal SANE program regarding their work with their patients and with local law enforcement. This SANE program had N=11 nurses on their staffing roster who conduct adult sexual assault forensic exams, six of whom took the majority of the adult cases and were the most experienced working with survivors and law enforcement. These N=6 nurses were contacted to request their participation in this study, and all agreed. All nurse participants were white females, with an average age of 46 years, range of 30 to 55 years old.

This SANE program maintains a philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal. This SANE program does not pressure their patients to report to law enforcement, and instead they emphasize that it is the survivors' choice and either way, the forensic nurses will be there to care for them, as this nurse described:

*It's first and foremost to provide care and support to a patient, and part of that is that collect evidence .... I think that the ultimate outcome I would want is for them to feel like they're in control of their life again.... The most that I could offer would be that they feel safe, they feel like they have had that first step . . . And if I can give them that, or give them any measure of that, I think I've done the best job that I can do.*

Therefore, it is entirely consistent with this SANE program's practice that we did not find a direct link between SANE involvement and victim participation—there should not be. The forensic nurses' role is to provide care to their patients, link them to other support services, and as it turns out, this can have an *indirect* benefit on victim participation in the criminal justice system, as this nurse explained:

*Just that there is support for them for that [participating in prosecution]. You know, let them know of [the local rape crisis center's] counseling and availability to support them through that process. So there again, at least they'll know that they don't have to be alone in that, that there are people who can give them some guidance and that, though it might, won't be me, but this organization has that capability, and can help them through that process.*

In SANEs' work with law enforcement, the evidence collected from victims and suspects, and all accompanying documentation, was made immediately and easily accessible to law enforcement so that it

could be used to inform their investigation. In their on-going case consultations with police, the forensic nurses provided information about medical forensic evidence in general, and injuries in particular, and encouraged law enforcement to conduct a thorough investigation of the case, regardless of the medical forensic evidence findings. The nurses noted that they pay particular attention to educating law enforcement about victim injuries, including why they may not be present:

*If they [police] ask [about injuries] in such a way of the expectation is that there should be something, then you had to do a little, you know, intervention [and say], "Now, just because there's no injury, according to her history, this was what was said." But, no physical injury doesn't mean that no assault happened. And you might even go over the statistics, you know, 80 percent or whatever, thereabouts, there is no injury. And some would ask . . . why would there be no injury in a case of an assault? And so you'd have to do a little bit of education for them, to say, "Well, because, this is how the body is structured, and this its response, and it has nothing to do with wanting it."*

*I: What do you think that kind of information does for a case?*

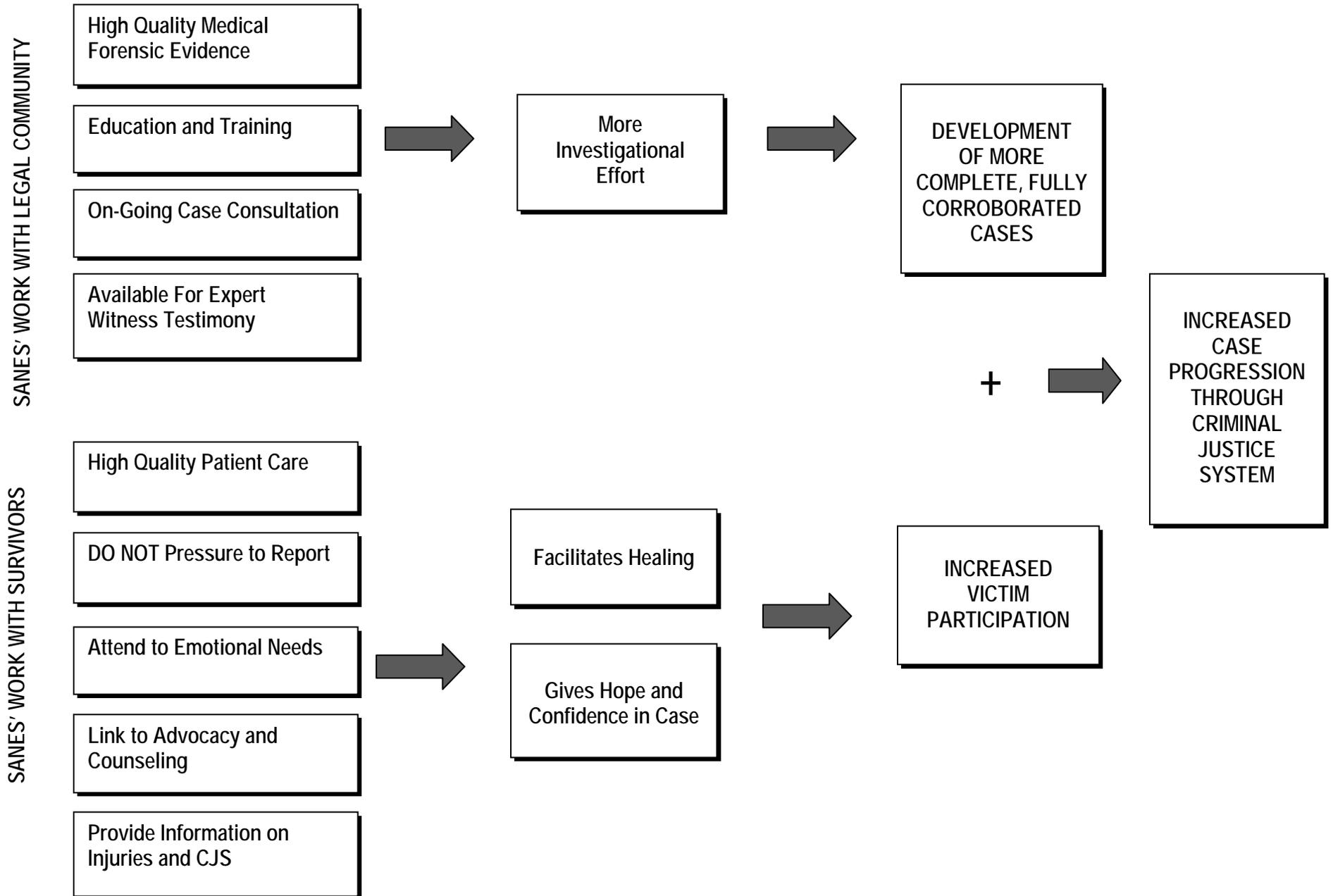
*So, I would hope it would mean, don't think that this is an investigation that doesn't need to go any further, based on the fact that there's no injury there. "OK, well we can slack off on this," or, "we can table this, because nothing happened." Hopefully, that would just add strength to the fact that it absolutely should move forward, or your investigation should go the way it should, because normal doesn't mean nothing happened.*

Taken together, these interview data suggest that more complete, fully corroborated cases emerged in the post-SANE era due, in part, to a greater awareness among all key stakeholders that sexual assault cases are complex puzzles, and no one responder can fully develop a case. As one nurse noted, "*[We're] working together as a team. We are all part of the jigsaw puzzle.*" The medical care SANEs provide to their patients can provide useful information to police for their investigation, but it is only one part of the investigation.

### **Summary of Findings and Implications for Practice**

Figure 1 (next pages) presents a summary of the key findings of this project. The increases in adult sexual assault case investigation and prosecution in the post-SANE era was due to two separate, but mutually reinforcing pathways of influence. First, in their work with the legal community, the focal SANE

FIGURE 1: SUMMARY OF OVERALL PROJECT FINDINGS



program concentrates on providing high quality medical forensic evidence, education and training, and on-going case consultation. In addition, police and prosecutors in this county knew that if a case went to court, the SANEs would be not only available, but also quite proficient expert witnesses who could explain the exam findings to a judge or jury. With this solid “base” of evidence and assurance of professional support, law enforcement put more effort into their investigations (e.g., collecting more evidence, conducting more interviews. This increased police effort, coupled with the information provided by the SANE exam, resulted in the development of more complete, fully corroborated cases. Consequently, in post-SANE era, it was more likely that prosecutors had stronger cases to move forward with for prosecution.

Second, successful case prosecution also requires the continued involvement of survivors, and SANEs play an important *indirect* role in supporting that link as well. This SANE program maintains a philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal. This SANE program does not pressure their patients to report to law enforcement. Instead, they emphasize that it is the survivors’ choice and either way, the forensic nurses will be there to care for them. The nurses and advocates work together as a team to attend to survivors emotional needs, link them to advocacy and counseling, and provide information about criminal justice system process. This care facilitates survivors’ emotional and physical health, and also gives them hope and confidence in their court cases. When victims aren’t so traumatized and well-informed, they are in a better position to participate in the criminal justice system. In sum, the combination of stronger cases coupled with increased victim participation appears to result in increased case progression through the criminal justice system.

The literature on SANE programs is quite sparse, so the findings of this study merit replication in other communities and other context. Nevertheless, the design of this project was quite rigorous, yielding important findings that may be useful for policy and practice. Table 3 (next pages) summarizes key practice implications that stem from the results of this project.

TABLE 3: IMPLICATIONS OF PROJECT FINDINGS FOR POLICY AND PRACTICE

PROJECT FINDINGS	IMPLICATIONS FOR POLICY AND PRACTICE
Study 1: Significant increase in criminal justice system case progression pre- to post-SANE	<p>Provides empirical support that SANE programs can have a beneficial impact on criminal justice system case processing. Concerns that SANEs could interfere with the investigation and prosecution of adult sexual assault cases are not supported.</p> <p>These findings highlight the importance of and potential utility of forensic nursing to the legal community; however, it cannot be concluded that all SANE programs contribute to increased prosecution. The findings also suggest there are important benefits of a multidisciplinary team model for sexual assault cases, namely increased time for law enforcement to pursue the investigation and increased support and mental health resources for survivors.</p>
Study 2: Medical forensic evidence is a significant predictor of case progression outcomes above and beyond victim and assault characteristics	<p>The availability of medical forensic exams for sexual assault survivors is vital because the evidence collected in these exams appears to be influential in law enforcement investigations and prosecution outcomes. The new VAWA provisions for forensic exams (i.e., no cost to victims) are an important new policy development consistent with these research findings. Sexual assault survivors need to have information about the availability of these services. A multidisciplinary approach whereby legal and mental health professions refer survivors for a medical forensic exam is key.</p>
Study 3: SANEs provide useful resources to law enforcement in the development of more complete, fully corroborated investigations	<p>SANEs can be a useful resource to police and the development of more thoroughly investigated reported sexual assaults. Police rarely have adequate resources to investigate all cases thoroughly, and the work of SANEs address some of those resource gaps, particularly by freeing up law enforcement time to collect other evidence.</p> <p>The development and maintenance of strong working relationships between SANE and law enforcement are good programmatic investments as they can contribute to increased understanding of sexual assault and investigational effort in sexual assault cases.</p> <p>Concerns that SANE involvement may interfere with law enforcement investigations are not supported.</p>
Study 4: SANE involvement in a case is significantly associated with increased investigation effort by law enforcement and increased case referral rates to prosecutors.	<p>Cases cannot be prosecuted if they are not referred by police to prosecutors; cases will not be referred if they have not been found to meet the elements of the crime. Therefore, increasing investigational effort is a key component of increasing referral rates.</p> <p>SANEs can be a useful resource to police and the development of more thoroughly investigated reported sexual assaults. Police rarely have adequate resources to investigate all cases thoroughly, and the work of SANEs address some of those resource gaps.</p> <p>Concerns that SANE involvement may interfere with investigations are not supported.</p>

---

## PROJECT FINDINGS

## IMPLICATIONS FOR POLICY AND PRACTICE

---

Study 5: The vast majority of survivors had very positive experiences with the SANE program and felt that their needs and concerns were attended to by program staff.

Positive SANE involvement does not necessarily lead to positive legal experience; many survivors still had negative/mixed experiences with law enforcement

Emphasis on patient care as a foremost priority is noticed and appreciated by survivors. The SANE program was a safe, respectful environment for survivors so they could begin the work of healing and recovering from rape. SANE programs should examine the ways in which program operation can contribute to and strengthen a mission of supporting patient well-being.

SANEs programs provide useful resources to law enforcement, but this does not guarantee that survivors will have positive experiences with police personnel. Education and training for law enforcement on successful strategies for working effectively with survivors is needed.

SANE programs need to present balanced messages to their patients so that survivors will not have unrealistic hopes regarding their law enforcement experiences. Simultaneously, these data highlight the importance of having victim advocates provide case-specific advocacy in the legal system.

---

Study 6: The focal SANE program maintains a practice philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal.

Emphasizing patient care has important benefits for survivors and their well-being, and can also have indirect benefits on legal prosecution. However, a key reason why this SANE program was instrumental in creating change within their legal system was due to their simultaneous efforts educating, training, and collaborating with law enforcement. The balance between working with survivors and law enforcement may not be easily achieved. SANE programs need to evaluate their own internal resource capacity before expanding program efforts to include more intensive work with the law enforcement community. Partnerships with the advocacy community may be useful to support joint education and training needs.

Additional research is needed to understand differences in SANE program philosophy and practice and whether particular models are more or less likely to support successful prosecution. The results of this study do not speak to whether alternative program philosophies can also be effective in creating legal system change.

---

## Conclusion

In conclusion, this twelve year analysis of criminal justice system case outcomes revealed that more cases were moving through the system to higher levels of disposition (i.e., guilty pleas or guilty convictions) after the implementation of a SANE program. The quasi-experimental design and supplemental data collection used in this project allow us to conclude that these effects are reasonably attributable to the efforts of the SANE program and not due to other changes over time in this community. The SANE programs' work with law enforcement and their patients, though separate and philosophically distinct, is mutually reinforcing and provides instrumental resources for successful case prosecution.

## REFERENCES

- Bureau of Justice Statistics [BJS] (2007). *National Crime Victimization Survey (NCVS)*. Washington DC: Author.
- Campbell, R. (2008a). The psychological impact of rape victims' experiences with the legal, medical, and mental health systems. *American Psychologist*, *68*, 702-717.
- Campbell, R. (2008b). *Multidisciplinary responses to sexual violence crimes: A review of the impact of SANE and SARTs on criminal prosecution*. Paper presented at the National Institute of Justice Sexual Violence Research Workshop. Washington, DC.
- Campbell, R., Patterson, D., & Lichy, L.F. (2005). The effectiveness of sexual assault nurse examiner (SANE) program: A review of psychological, medical, legal, and community outcomes, *Trauma, Violence, & Abuse*, *6*, 313-329.
- Campbell, R., Townsend, S.M., Long, S.M., Kinnison, K.E., Pulley, E.M., Adames, S.B., & Wasco, S.M. (2006). Responding to sexual assault victims' medical and emotional needs: A national study of the services provided by SANE programs. *Research in Nursing & Health*, *29*, 384-398.
- Crandall, C. & Helitzer, D. (2003). *Impact evaluation of a Sexual Assault Nurse Examiner (SANE) Program*. NIJ Document No: 203276; Award Number 98-WT-VX-0027.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Department of Justice (2004). *A national protocol for sexual assault medical forensic examinations: Adults/adolescents*. Washington, DC: Author.
- IAFN (2008). Data base of the International Association of Forensic Nurses, retrieved September 25, 2008 from <http://www.forensicnurse.org>.
- Ledray, L. (1999). *Sexual assault nurse examiner (SANE) development & operations guide*. Washington DC: Office for Victims of Crime, U.S. Department of Justice.
- Logan, T.K., Cole, J., & Capillo, A. (2007). Differential characteristics of intimate partner, acquaintance, and stranger rape survivors examined by a sexual assault nurse examiner (SANE). *Journal of Interpersonal Violence*, *8*, 1066-1076.
- Nugent-Borakove, M.E., Fanflik, P., Troutman, D., Johnson, N., Burgess, A., & O'Connor, A. (2006). *Testing the efficacy of the SANE/SART programs*. NIJ Award Number 2003-WG-BX-1003. Washington DC: NIJ.
- Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin Company.
- Spohn, C. (2008). *The criminal justice system's response to sexual violence*. Paper presented at the National Institute of Justice Sexual Violence Research Workshop. Washington, DC.
- Tjaden, P., & Thoennes, N. (1998). *Prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey*. Washington, DC: National Institute of Justice, U.S. Department of Justice.